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- (57) Abstract:

Problem to be solved: To provide various services to a user by means of two-way communication through the use of existed equipments such as an internet by generating a signal containing domain information on the network supplying network service related to a TV broadcast program and multiplexing the generated signal with the signal of the TV broadcast program. Solution: A network address signal generation circuit 12 generating the signal containing domain information on the network supplying network service related to the TV broadcasting program, a multiplexer 13 multiplexing the signal with the signal of the TV broadcasting program and a transmission circuit 14 outputting the signal are provided.

The signal containing URL information on network service related to the TV broadcasting program is multiplexed with a TV video signal so as to transmit them. A receiver receives them, connects the signals to an access point corresponding to URL via the internet, receives data and outputs/displays a home page on CRT.

[Claims]

[Claim 1]

Television-broadcasting equipment characterized by having a generation means to generate a signal including the domain information on network that the network service relevant to a television broadcasting program is offered, a multiplexing means to multiplex the mentioned above signal generated by the mentioned above generation means to the signal of the mentioned above television broadcasting program, and an output means output the mentioned above television broadcasting signal multiplexed by the mentioned above multiplexing means.

[Claim 2]

The television broadcasting approach characterized by generating a signal including the domain information on network that the network service relevant to a television broadcasting program is offered, multiplexing the mentioned above generated signal to the signal of the mentioned above television broadcasting program and outputting the mentioned above multiplexed television broadcasting signal.

[Claim 3]

An extract means to extract the mentioned above domain information from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed, The connecting means linked to the predetermined access point corresponding to the domain information on the mentioned above network, The television signal receiving set characterized by having a receiving means to receive the predetermined data signal transmitted from the mentioned above access point connected by the mentioned above connecting means, and a processing means to process the mentioned above data signal received by the mentioned above receiving means.

[Claim 4]

The mentioned above connecting means is a television signal receiving set according to claim 3 characterized by performing connection processing to the mentioned above access point when a predetermined command is inputted within a predetermined period.

[Claim 5]

The mentioned above connecting means is a television signal receiving set according to claim 3 characterized by connecting with the mentioned above access point which offers the mentioned above predetermined network service through the telephone line.

[Claim 6]

The television signal receiving approach characterized by receiving the predetermined data signal that extracts the

mentioned above domain information, connects with the predetermined access point corresponding to the domain information on the mentioned above network from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed and is transmitted from the mentioned above connected access point and processing the mentioned above received data signal.

[Claim 7]

The television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed and received. When the mentioned above domain information is extracted and memorized from the mentioned above television broadcasting signal and a predetermined command is inputted from remote control, remote control characterized by having the actuation means operated when making the mentioned above domain information that memorized the television signal receiving set which accesses the mentioned above memorized domain information to the mentioned above television signal receiving set in remote control which carries out remote control start access.

[Claim 8]

In the remote control approach that carries out remote control of the television signal receiving set which receives a television broadcasting signal, the mentioned above television broadcasting signal with which the signal including the domain information on network that

the network service relevant to a television broadcasting program is offered is multiplexed, the mentioned above television signal receiving set receives. The mentioned above television signal receiving set extracts and memorizes the mentioned above domain information from the mentioned above television broadcasting signal, and a screen including the image corresponding to the mentioned above domain information received with the mentioned above television signal receiving set is displayed. When the signal corresponding to a predetermined key is inputted from the mentioned above remote control in the condition that the screen corresponding to the mentioned above domain information is displayed, The remote control approach characterized by making the mentioned above television signal receiving set access the mentioned above memorized domain information through the mentioned above network.

[Detailed description of the invention]

[0001]

[Field of the invention] This invention, Television broadcasting equipment, the television broadcasting approach and television signal receiving set is related with the television signal receiving approach, remote control and the remote-control approach. Television (TV) broadcast equipment multiplexes and transmits especially a signal including the domain information on network that the network service relevant to TV program is offered to TV broadcast signal. TV receiving set receives and connects this to a corresponding access point. It is related with the television broadcasting

equipment that processed the data signal corresponding to a predetermined network service, the television broadcasting approach, a television signal receiving set, the television signal receiving approach, remote control and the remote-control approach.

[0002]

[Description of the prior art] In recent years, a high-speed-data communication network like ISDN (Integrated Service Digital Network) or a digital cable is used, and the technique of performing two-way communication is spreading.

[0003]

Since it is possible in B-ISDN (broadband ISDN) to transmit an animation video signal, a mass computer data signal, etc. at high speed in addition to a sound signal, a facsimile signal, a still picture video signal, etc., while transmitting the television video signal containing a high definition television and its additional information data by this B-ISDN, and TV receiving set's receiving this and indicating the image by the output at CRT, additional information data can be processed and the two-way communication system that outputs various kinds of data signals which contain an image from TV receiving set further can be realized. Specifically, electronic voting, home shopping, a viewer participating program, electronic reservation, etc. are realizable.

[0004]

[Problems to be solved by the invention] However, when TV receiving set for two-way communication is arranged at each home, it is B-ISDN for example and it realizes

the above mentioned two-way communication system, it is necessary to arrange high-speed communication media like a fiber optic cable as a transmission medium of the information from each home to the exchange and implementation in the present condition is difficult.

[0005]

On the other hand, B-ISDN was not used, but when the above services were realized using the telephone line that has spread through each home, the network had to be built for every service and the technical problem that versatility was scarce occurred. Also, in order to obtain the response time of sufficient data communication to the user of wide range, the technical problem of an access point occurred.

[0006]

This invention is made in view of such a situation, and offers various kinds of services by two-way communication to a user using an existing facility like the Internet.

[0007]

[Means for solving the problem] Television broadcasting equipment according to claim 1 is characterized by having a generation means to generate a signal including the domain information on network that the network service relevant to a television broadcasting program is offered and a multiplexing means to multiplex the signal generated by the generation means to the signal of a television broadcasting program.

[0008]

The television broadcasting approach according to claim 2 is characterized by generating a signal including the domain information on network that the network service relevant to a television broadcasting program is offered and multiplexing the generated signal to the signal of a television broadcasting program.

[0009]

A television signal receiving set according to claim 3 An extract means to extract domain information from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed. It is characterized by having the connecting means linked to the predetermined access point corresponding to the domain information on network, a receiving means to receive the predetermined data signal transmitted from the connected access point and a processing means to process the received data signal.

[0010]

The television signal receiving approach according to claim 6 is characterized by receiving the predetermined data signal which extracts domain information, connects with the predetermined access point corresponding to the domain information on network and is transmitted from the connected access point and processing the received data signal from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed.



[0011]

Remote control according to claim 7 is characterized by having the actuation means operated when making the domain information memorized to the television signal receiving set start access.

[0012]

The remote-control approach according to claim 8 the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed, television signal receiving set receives. Television signal receiving set that extracts and memorizes domain information from a television broadcasting signal, display a screen including the image corresponding to the domain information received with the television signal receiving set, and the screen corresponding to domain information is displayed. When the signal corresponding to a predetermined key is inputted from remote control, it is characterized by making a television signal receiving set access the memorized domain information through a network.

[0013]

In television broadcasting equipment according to claim 1, the signal with which a generation means includes the domain information on network that the network service relevant to a television broadcasting program is offered is generated and a multiplexing means multiplexes the generated signal to the signal of a television broadcasting program.

[0014]

In the television broadcasting approach according to claim 2, a signal including the domain information on network that the network service relevant to a television broadcasting program is offered is generated and the generated signal is multiplexed by the signal of a television broadcasting program.

[0015]

In a television signal receiving set according to claim 3 from the television broadcasting signal with which the signal with which an extract means includes the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed. The predetermined data signal transmitted from the access point where domain information was extracted, the connecting means connected with the predetermined access point corresponding to the domain information on network and the receiving means was connected is received and a processing means processes the received data signal.

[0016]

From the television broadcasting signal with which the signal that includes the domain information on network that the network service relevant to a television broadcasting program is offered, in the television signal receiving approach according to claim 6 is multiplexed, domain information is extracted, the predetermined data signal which the predetermined access point corresponding to the domain information on network is connected and is transmitted from the connected access

point is received and the received data signal is processed.

[0017]

In remote control according to claim 7, when an actuation means makes the domain information memorized to the television signal receiving set start access, it is operated.

[0018]

The television broadcasting signal with which the signal that includes the domain information on network that the network service relevant to a television broadcasting program is offered, in the remote control approach according to claim 8 is multiplexed. It is received by the television signal receiving set. With a television signal receiving set in the condition that domain information is extracted and memorized from a television broadcasting signal, a screen including the image corresponding to the domain information received with the television signal receiving set is displayed, and the screen corresponding to domain information is displayed. When the signal corresponding to a predetermined key is inputted from remote control, the memorized domain information is accessed by the television signal receiving set through a network.

[0019]

[Embodiment of the invention] Although the example of this invention is explained below, it is as follows, when an example in the parenthesis after each means, however, an example is added and the description of this invention is described, in order to carry out correspondence

relation between each means given in a claim, and the following examples. However, of course, this publication does not mean limiting to what indicated each means.

[0020]

A generation means to generate the signal with which television broadcasting equipment according to claim 1 includes the domain information on network that the network service relevant to a television broadcasting program is offered (for example, the network address signal generation circuit 12 of drawing 1) and a multiplexing means to multiplex the signal generated by the generation means to the signal of a television broadcasting program (for example, multiplexer 13 of drawing 1), it is characterized by having an output means (for example, transmission circuit 14 of drawing 1) to output the television broadcasting signal multiplexed by the multiplexing means.

[0021]

A television signal receiving set according to claim 3 from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed. An extract means to extract domain information (for example, VBI data slicer 32 of drawing 2), the connecting means linked to the predetermined access point corresponding to the domain information on network (for example, microprocessor 34 of drawing 2 which processes step S8 of drawing 4), receiving means to receive the predetermined data signal transmitted from the access point connected by the connecting means (for example, data modem 38 of

drawing 2). It is characterized by having a processing means (for example, microprocessor 34 of drawing 2 which processes step S10 of drawing 4) to process the data signal received by the receiving means.

[0022]

Remote control according to claim 7 receives the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed. When domain information is extracted and memorized from a television broadcasting signal and a predetermined command is inputted from remote control, in remote control that carries out remote control of the television signal receiving set which accesses the memorized domain information. It is characterized by having the actuation means (for example, connection key K5 of drawing 3) operated when making the domain information memorized to the television signal receiving set start access.

[0023] Drawing 1 is the block diagram showing the configuration of one example of TV broadcast equipment of this invention.

[0024] The TV signal generating circuit 11 consists of for example, video tape recorders for broadcast etc., carries out generation magnification of TV video signal and the TV sound signal, and outputs to a multiplexer 13.

[0025] The network address signal generating circuit 12 changes into a signal the URL (Uniform Resource Locators) information on the domain of a predetermined network that the service on the Internet relevant to TV

broadcast signal is offered, and outputs to a multiplexer 13.

[0026]

A multiplexer 13 multiplexes a signal including the URL information inputted into the scanning line (for example, scanning line that is not used or used by the teletext) of the vertical blanking interval of TV video signal inputted from the TV signal generating circuit 11 from the network address signal generation circuit 12, and is further outputs to a transmission circuit 14 multiplex TV sound signal.

[0027]

TV broadcast signal outputted from the multiplexer 13 outputs through an antenna 2 through radio, after being amplified in a transmission circuit 14.

[0028] Drawing 2 is the block diagram showing the configuration of the TV receiving set 21 adapting the television signal receiving set of this invention.

[0029] It is received by the TV antenna 22 and TV broadcast signal including URL information is inputted into the tuner 31 of the TV receiving set 21.

[0030]

A user's actuation of a Remote Control 23 transmits the signal corresponding to the actuation to the TV receiving set 21 with an infrared signal from a Remote Control 23. This signal is inputted into a microprocessor 34, after being inputted through the light sensing portion 45 of the TV receiving set 21 and being further changed into an electrical signal.

[0031]

A microprocessor 34 reads a control program from ROM36 at the power up of the TV receiving set 21 and performs various control of the TV receiving set 21. If the indication signal that directs a channel selection of a predetermined TV broadcast station is inputted through a light sensing portion 45 from a Remote Control 23, the microprocessor 34 outputs to a tuner 31 the channel selection instruction corresponding to this indication signal.

[0032]

A tuner 31 carries out the reception recovery of the TV broadcast signal of specified TV broadcast channel according to the instruction from a microprocessor 34, and outputs to video/ audio selection circuitry 33a sound signal and a video signal. Also, a tuner 31 outputs a video signal to the VBI (Vertical Blanking Interval) data slicer 32 and extracts the signal multiplexed by VBI of a video signal.

[0033]

The VBI data slicer 32 extracts the alphabetic character data signal for teletexts, and a signal including URL information from the video signal inputted from the tuner 31, and outputs to a microprocessor 34. Then, this URL information is stored through a microprocessor 34 in RAM35.

[0034]

When the indication signal from the Remote Control 23 through a light sensing portion 45 is what directs connection with the access point that offers a network

service, a microprocessor 34 reads URL information from RAM35, and outputs to a data modem 38 the signal transmission for connecting with a predetermined provider. A data modem 38 modulates this signal transmission to the predetermined signaling frequency based on the telephone line, and outputs to the telephone line through a modular jack 24.

[0035]

It is transmitted through the telephone line via a provider's machine, the processed-data signal from the offer origin of a predetermined network service is inputted into a data modem 38 through a modular jack 24 and after getting over, it is inputted further into a microprocessor 34.

[0036] A microprocessor 34 processes this processed-data signal, generates the image data and sound data corresponding to service, and outputs sound data / image data to the video encoder 37 and to the audio encoder 39, respectively.

[0037] The video encoder 37 changes into a signal the image data inputted from the microprocessor 34, and outputs to video / audio selection circuitry 33.

[0038] The audio encoder 39 changes into a sound signal the sound data inputted from the microprocessor 34 and outputs to video / audio selection circuitry 33.

[0039] Video / audio selection circuitry 33 chooses the video signal of either or both sides suitably among the video signal inputted from a tuner 31 and the video signal inputted from the video encoder 37, and outputs to the video control circuit 41.



[0040] Also, video / audio selection circuitry 33 chooses one of sound signals among the sound signals inputted from a tuner 31 or the audio encoder 39 and outputs to the audio signal amplifying circuit 40.

[0041] The video signal control circuit 41 changes a video signal into an RGB code, and outputs to the RGB code amplifying circuit 42.

[0042] The RGB code outputted from the video signal control circuit 41 is outputted to CRT43, after being amplified by the RGB code amplifying circuit 42.

[0043] The sound signal outputted from video / audio signal selection circuitry 33 is outputted to a loudspeaker 44, after being amplified by the audio signal amplifying circuit 40.

[0044] Drawing 3 is the block diagram showing the configuration of one example of a Remote Control 23.

[0045] The Remote Control 23 shown in drawing 3 is made to the TV receiving set 21 as direct output processing of TV broadcast signal and processing of the both sides of the processing about a network service.

[0046] The power-source key K1 is operated when supplying a power source to the TV receiving set 21 and a numerical keypad K2 is operated when tuning in TV broadcast channel of the figure corresponding to the operated key. When increasing sound each key of the sound-volume UP/DOWN key K3 (or reduction), it is operated, and each key of the channel UP/DOWN key K4 is operated when receiving the next (or previous) TV broadcast channel of TV broadcast channel by which the current channel selection is carried out.

[0047] Connection key K5 is operated when making connection to the offer origin of a network service connectable at the time of actuation of this key.

[0048] A trackball K7 is operated when moving the cursor currently displayed on CRT43 in the corresponding direction and the click key K8 is operated when opting for selection of the processing corresponding to the location of cursor.

[0049] In addition, when an output indication of the image by the network service is not given, the trackball K7 and the directions instruction by actuation of a click key K8 are ignored by CRT43.

[0050] Next, with reference to the flow chart of drawing 4, processing actuation of the TV receiving set 21 is explained.

[0051] Actuation of the TV receiving set 21 in case the alphabetic character data signal and TV broadcast signal with which neither of a signal including URL information is multiplexed are outputted to VBI of TV video signal from introduction and a TV broadcast station and the processing actuation corresponding to it are explained.

[0052] If a user directs the channel selection of predetermined TV broadcast channel by actuation of a numerical keypad K2 or the channel UP/DOWN key K4 after actuation of the power-source key K1 of the Remote Control 23 shown in drawing 3, the indication signal from a Remote Control 23 will be inputted into a microprocessor 34 through the light sensing portion 45 of the TV receiving set 21 at step S1 of drawing 4.

[0053] Corresponding to this, a microprocessor 34 outputs the channel selection instruction of TV broadcast channel specified to the tuner 31. According to this channel selection instruction, a tuner 31 chooses predetermined TV broadcast channel and outputs a sound signal and a video signal to video / audio selection circuitry 33.

[0054] At continuing step S2, the video signal control circuit 41 changes into an RGB code the video signal inputted from video / audio selection circuitry 33 and outputs it to the RGB code amplifying circuit 42. Then, after this RGB code is amplified in the RGB code amplifying circuit 42, it is outputted to CRT43.

[0055] Also, after a sound signal is inputted into the audio signal amplifying circuit 33 through video / audio selection circuitry 41 and is amplified in this circuit, it is outputted to a loudspeaker 44.

[0056] Then, a microprocessor 34 judges whether the signal is multiplexed by VBI of TV video signal at step S3 (it judges whether data were inputted from the VBI data slicer 32). Since the signal is not multiplexed by VBI of TV video signal in now, the judgment of NO is made and the actuation of a user in processing of TV broadcast signal in this case is ended.

[0057] Thus, an output indication of the TV image of TV broadcast channel is given from CRT43, and TV sound is outputted from a loudspeaker 44.

[0058] Drawing 5 shows the example of 1 display of the screen displayed on CRT43 by processing of step S2.

[0059] The character string A of drawing 5 represents URL transmitted as some images into TV video signal. In addition, it is possible not only to display URL, but announce as an output of TV sound signal.

[0060] Thus, if URL of the network service offer origin that provides CRT43 with the service relevant to TV broadcast channel is displayed, with the personal computer of each home, URL can be manually inputted from a keyboard, it can connect with the access point shown in this URL and the service relevant to TV broadcast channel can be received too.

[0061] However, in having inputted URL manually, operability is bad and inconvenient. Then, a broadcasting station is transmitted also as BVI at the same time it broadcasts URL as some images.

[0062] Next, actuation of the TV receiving set 21 when TV broadcast signal with which URL information is multiplexed is outputted to VBI of TV video signal, and the processing actuation corresponding to it are explained from a TV broadcast station in the state of now.

[0063] A microprocessor 34 performs processing of step S1 - step S3 like the case where it mentions above. It judges whether the signal which the judgment of YES is made at step S3 in now, it is further indicated by the output by step S4 when a microprocessor 34 outputs an alphabetic character data signal, and is step S5, and includes URL information in VBI is multiplexed. The judgment of YES is made and a microprocessor 34 makes RAM35 memorize URL information at step S6 in

now. Also, a microprocessor 34 displays the character string B as outputted OSD data to the video encoder 37, for example, shown in drawing 6 on CRT43.

[0064] The signal that includes URL information in VBI of TV video signal is multiplexed and the character string B of drawing 6 tells a user about the signal including this URL information having been received for the TV receiving set 21. Thus, a user can recognize having received the signal including URL information.

[0065]

Then, a user judges whether it connects with a network service during the period when URL (character string A) is displayed (to or inside of fixed time amount (this time amount is transmitted by BVI, or is preliminary set as the predetermined value)) at step S7. When it is judged that a user does not connect, actuation after it is ended. A microprocessor 34 makes a character string B eliminate from a screen, when predetermined time amount passes. Also, a character string A is eliminated to predetermined timing (broadcast of URL is ended). After a character string A is eliminated (or after fixed time amount progress), even if a user operates connection key K5, the actuation is disregarded and connection processing that is mentioned later is not performed.

[0066] A user does the depression of the connection key K5 of (during the period (to or inside of a fixed period) when URL is displayed), and a Remote Control 23 in the state of the screen shown in drawing 6, when it is judged that it connects with a network service. At this time, the judgment of YES is made at step S7 and it branches to step S8.

[0067]

At step S8, the indication signal corresponding to actuation of connection key K5 is inputted into a microprocessor 34 through a light sensing portion 45. Corresponding to this, a microprocessor 34 reads URL information from RAM35 and outputs the signal transmission for connecting with the access point corresponding to URL to a data modem 38. A data modem 38 modulates this signal transmission, and outputs it to the telephone line through a modular jack 24. At this time, a microprocessor 34 outputs the alphabetic data (OSD data) for telling a user about initiation of connection processing to the video encoder 37. This alphabetic data is inputted into the video signal control circuit 41 through the video encoder 37 and the video / audio selection circuitry 33, is superimposed by TV video signal and is outputted to CRT43 through the RGB code amplifying circuit 42.

[0068]

Drawing 7 is carried out in this way, and represents the example of a display of the screen by which it was indicated by the output to CRT43. The character string C of drawing 7 carries out the video output of the alphabetic data outputted from the microprocessor 34 and it means having started connection processing.

[0069]

Then, by step S9, after connecting with the access point corresponding to URL, the processed data corresponding to a network service are transmitted through the telephone line from an access point and are inputted into

a microprocessor 34 through a modular jack 24 and a data modem 38.

[0070]

At consecutive step S10, a microprocessor 34 processes these processed data, generates the image data and sound data corresponding to a network service, outputs image data to the video encoder 37, and outputs sound data to the audio encoder 39. At this time, a microprocessor 34 stops the output of TV video signal to video / audio selection circuitry 33. The video signal encoded with the video encoder 37 is outputted to CRT43 through video / audio selection circuitry 33, the video signal control circuit 41 and the RGB code amplifying circuit 42. Also, the sound signal modulated with the audio encoder 39 is outputted to a loudspeaker 44 through video / audio selection circuitry 33 and the audio signal amplifying circuit 40.

[0071] Thus, the screen shown in drawing 7 is eliminated and the offer screen of the network service instead generated by having processed data is displayed on CRT43. Also, the sound corresponding to a network service is outputted from a loudspeaker 44.

[0072] Drawing 8 is carried out in this way, and represents the example of a display of the offer screen (homepage) of the network service displayed on CRT43.

[0073] The screen shown in drawing 8 represents the homepage that offers the information about the “house” displayed on the screen shown in drawing 7. Also, a microprocessor 34 displays the cursor D for choosing various kinds of services as this screen from a homepage.

[0074]

On the screen shown in drawing 8, a user's actuation of the trackball K7 of a Remote Control 23 inputs the directions instruction corresponding to it into a microprocessor 34. A microprocessor 34 generates the image data made to move Cursor D in the direction corresponding to actuation of a trackball K7 and outputs them to the video encoder 37. Thus, Cursor D moves corresponding to actuation of a trackball K7.

[0075]

Also, if the depression of the click key K8 is carried out after a user operates a trackball K7 and moves Cursor D to a position, a corresponding indication signal will be inputted into a microprocessor 34, and a microprocessor 34 will perform processing corresponding to the location of Cursor D. When the processing corresponding to the location of Cursor D is what requires still more nearly another network service, a microprocessor 34 transmits the demand signal by the telephone line to an access point through a data modem 38 and a modular jack 24 again.

[0076] Then, through a data modem 38, a microprocessor 34 generates reception, and the image data and sound data corresponding to process processed data service, and outputs the processed data transmitted from the access point corresponding to predetermined URL to the video encoder 37 and the audio encoder 39, respectively.

[0077] Thus, a microprocessor 34 performs processing corresponding to the location of Cursor D, and acquires processed data through a data modem 38 suitably if needed.



[0078]

When terminating a network service, a user directs termination of a network service to a macro processor 34 by carrying out the depression of the click key K8, after moving Cursor D to the predetermined icon on the display screen by actuation of a trackball K7.

[0079] A microprocessor 34 is step S11, controls video / audio selection circuitry 33, and makes the output of TV video signal start corresponding to this. Thus, the screen of TV image as output processing of TV image and output processing of TV sound resumed, consequently again shown in drawing 5 is displayed on CRT43.

[0080]

Thus, if needed, it can connect with the access point corresponding to URL automatically, and a network service can be enjoyed, viewing and listening to TV program by making VBI of TV video signal multiplexes a signal including URL information, and transmitting to it.

[0081]

Under the present circumstances, a user does not need to operate two or more keys and does not need to input URL that consists of two or more alphabetic characters, and since connection processing is started only by operating one connection key K5, operability improves. Also, since actuation becomes easy, a service provider can expect access from more users.

[0082]

Drawing 9 is the block diagram showing the configuration of the example at the time of making the

amount of principal part become independent of the TV receiving set 21 of drawing 1 and considering as a VBI receiver.

[0083]

The VBI receiver 51 that shows drawing 9 prepares the video output part and sound output part of the TV receiving set 21 of drawing 2 in an external device and performs only processing about a signal including the URL information multiplexed by BVI of TV broadcast signal. In the VBI receiver 51 shown on drawing 9, the same numerals are given to the same parts of drawing 2, and the corresponding part, and the explanation is omitted suitably.

[0084]

The control panel 46 directs various kinds of actuation of the VBI receiver 51, for example, channel selection actuation of predetermined TV broadcast channel and processing actuation of the various kinds in the display screen of a network service.

[0085]

The sound signal and video signal that are outputted from the VBI receiver 51 and other various AV (Audio Visual) devices (not shown) are outputted to a loudspeaker 52 and CRT53, respectively. The switching unit (not shown) is installed between the VBI receiver 51 and various AV equipments, and CRT53 or a loudspeaker 52 and it is outputted to CRT53 or a loudspeaker 52, the signal outputted from the VBI receiver 51 and various AV equipments.

[0086] In addition, since processing actuation of the VBI receiver 51 is the same processing actuation as the thing except the actuation about the video output part and sound output part of the TV receiving set 21 that are shown in drawing 2, the explanation is omitted.

[0087] Thus, CRT and a loudspeaker are sharable by separating equipment (VBI receiver 51) including processing of a signal including the URL information multiplexed by VBI and communications processing with an access point and the equipment (a loudspeaker 52 and CRT53) that outputs an image and sound with the BVI receiver 51 and various AV equipments.

[0088] Drawing 10 is the block diagram showing the configuration of the example of the VBI receiver 61 at the time of separating the part that performs data communication and processing of processed data further from the VBI receiver 51 of drawing 9.

[0089] The microprocessor 34 in this case is outputs through an antenna 62 by radio, after reading URL information from RAM35 and changing into an electrical signal. The signal of the URL information outputted from the antenna 62 is received by the antenna which the terminal 63 possesses.

[0090] It connects with the access point that corresponds through the telephone line based on the signal of URL information, and the terminal 63 receives the processed data of a predetermined network service through the telephone line.

[0091] The terminal 63 is memorized in the memory that builds in these processed data, and after generating the sound data and image data corresponding to a network

service based on processed data, it is outputted to a loudspeaker 64 and CRT65, respectively.

[0092] Thus, the offer screen of a network service as shown in drawing 8 is displayed on CRT65. On this screen, a user can operate the keyboard or mouse provided to a terminal, and can enjoy desired service.

[0093] In addition, although in the example shown in drawing 10, the antenna which a microprocessor 34 outputs URL data through radio through an antenna 62, and builds in the terminal 63 receives, a microprocessor 34 transmits URL data with infrared radiation through luminescence diode, and this can be received by the photo detector that the terminal 63 contains. Also, the terminal 63 is connected with the VBI receiver 61 with a cable, and it is possible to transmit URL data through this cable.

[0094] Thus, it can respond to two or more users by preparing one VBI receiver 61 and two or more terminals 63 by separating the receiving part and its processing part of a signal including URL information, without only the number of users preparing the TV receiving set 21 as shown in drawing 2.

[0095] Also, in the example shown in drawing 9 and drawing 10, directions can be inputted with a Remote Control as shown in drawing 3.

[0096] The service that connects with the access point which offers the network service relevant to a program by one actuation (actuation of connection key K5), and corresponds to it is enjoyable, viewing and listening to TV program as mentioned above. Therefore, it is not

necessary to input manually URL that consists of two or more alpha characters, and quick actuation is attained.

[0097] Also, since what is necessary is just to include the comparatively small amount of information of only domain information on a network service like URL in the signal which TV broadcast signal is made to multiplex and is transmitted as mentioned above this invention can be realized easily technically.

[0098] In addition, although in the above-mentioned example, a signal including URL information is multiplexed and transmitted to VBI of TV broadcast signal, the domain information on network services, such as URL, can also be added and transmitted to the data packetized by digital broadcasting, such as satellite broadcasting service, for example.

[0099]

[Effect of the invention] As mentioned above, according to television broadcasting equipment according to claim 1 and the television broadcasting approach according to claim 2, a signal including the domain information on network that the network service relevant to a television broadcasting program is offered is generated, and the service which acquires quickly the network service of the request relevant to TV program is realizable, a viewer viewing and listening to TV program, since the generated signal was multiplexed to the signal of a television broadcasting program.

[0100]

According to a television signal receiving set according to claim 3 and the television signal receiving approach

according to claim 6 from the television broadcasting signal with which the signal including the domain information on network that the network service relevant to a television broadcasting program is offered is multiplexed, since the predetermined data signal that extracts domain information, connects with the predetermined access point corresponding to the domain information on network and is transmitted from the connected access point is received and the received data signal was processed, viewer can enjoy the target network service quickly and automatically by easy actuation.

[0101]

According to remote control according to claim 7 and the remote-control approach according to claim 8, since it was made to be operated when making the domain information memorized to the television signal receiving set start access, the operation mistake when connecting at the target network service can be prevented and operability can be raised.

[Brief description of the drawings]

[Drawing 1] is the block diagram showing the example of a configuration of the television broadcasting equipment 1 of this invention.

[Drawing 2] is the block diagram showing the configuration of one example of the TV receiving set 21 adapting the television signal receiving set of this invention.

[Drawing 3] is drawing showing the configuration of one example of a Remote Control 23.

[Drawing 4] is a flow chart explaining processing actuation of the TV receiving set 21 of drawing 2.

[Drawing 5] is drawing showing the 1st example of a display displayed on CRT43.

[Drawing 6] is drawing showing the 2nd example of a display displayed on CRT43.

[Drawing 7] is drawing showing the 3rd example of a display displayed on CRT43.

[Drawing 8] is drawing showing the example of a display of the offer screen of the network service displayed on CRT43.

[Drawing 9] is the block diagram showing the configuration of the 1st example of the VBI receiver adapting the television signal receiving set of this invention.

[Drawing 10] is the block diagram showing the configuration of the 2nd example of the VBI receiver adapting the television signal receiving set of this invention.

[Description of Notations]

1 TV Broadcast Equipment

2 Antenna

11 TV Signal Generating Circuit

12 Network Address Signal Generation Circuit

13 Multiplexer

14 Transmission circuit

21 TV Receiving Set

22 TV Antenna

23 Remote Control

24 Modular Jack

31 Tuner

32 BVI Data Slicer

33 Video / Audio Selection Circuitry

34 Microprocessor

35 RAM

36 ROM

37 Video Encoder

38 Data Modem

39 Audio Encoder

40 Audio Signal Amplifying Circuit

41 Video Signal Control Circuit

42 RGB Code Amplifying Circuit

43 CRT

44 Loudspeaker

45 Light Sensing Portion

46 Control Panel

51 VBI Receiver

52 Loudspeaker

53 CRT      61 VBI Receiver

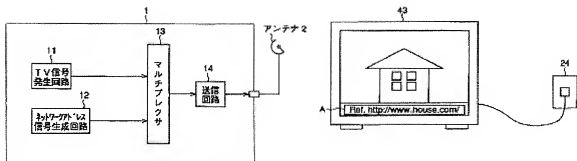
62 Antenna

63 Terminal    64 Loudspeaker

65 CRT

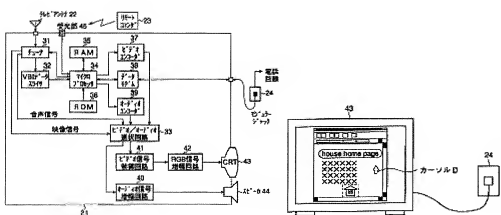


Drawing 1



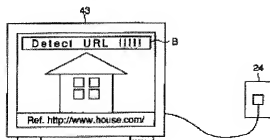
Drawing 5

Drawing 2

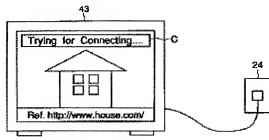


Drawing 8

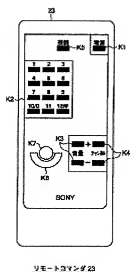
Drawing 6



Drawing 7

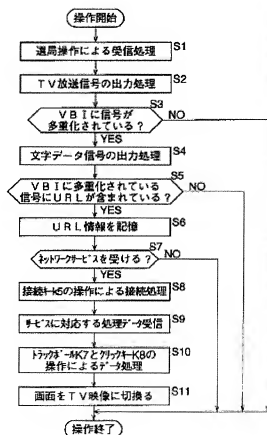


Drawing 3

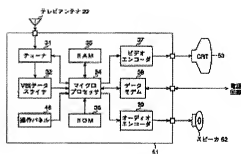


リモートコントロール 20

Drawing 4



Drawing 9



Drawing 10

